REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 7-9 have been added. Thus, Claims 1-9 are currently pending in this application, with Claims 1, 5 and 6 being the only independent claims.

The Official Action finally rejects Claims 1-4, and 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,418,841 to *Eckstein* in view of U.S. Patent No. 5,536,542 to *Gillespie et al.* The Official Action also maintains the rejection of Claim 5 based on the disclosures in the aforementioned documents and further in view of the disclosure contained in U.S. Patent No. 5,732,825 to *Ikenoya et al.*

As has been explained previously, Claim 1 is directed to a packaging material for making paper containers having an interior, wherein the packaging material comprises at least a thermoplastic material outermost layer, a paper substrate layer, a barrier layer, and a thermoplastic material innermost layer. The thermoplastic material innermost layer contains at least a linear low density polyethylene which has a narrow molecular weight distribution and an average density of 0.900 g/ml - 0.915 g/mL, a peak melting point of 88 °C - 103 °C, a melt flow index of 5 dg/min. - 20 dg/min., a swelling ratio of 1.4 - 1.6, and a layer thickness of 20 - 50 micrometers.

Independent Claim 6 is directed to a paper packaging container formed from a packaging material comprising, in addition to other layers, an inside thermoplastic material layer containing at least a linear low density polyethylene and having a melt flow index of 5 dg/min. - 15 dg/min. and a swelling ratio of 1.45 - 1.55.

Independent Claim 5 is directed to a paper packaging container formed from a packaging material having the claimed values for average density, melt flow index and swelling ratio. This claim goes on to define a strip tape covering a discontinuous section of the thermoplastic material innermost layer between two edges of the packaging material in a liquid tight manner, and recites that at least the sealing-surface layer of the strip tape contains a linear low density polyethylene having the claimed values for average density, peak melting point, melt flow index, swelling ratio and thickness.

Eckstein discloses a multiple layer polymeric-based sheet structure having a heat sealable layer, a first adhesive layer, a barrier layer, a second adhesive layer, a layer of oriented polypropylene, and a polyethylene layer.

The Official Action recognizes that *Eckstein* fails to disclose packaging material including an innermost thermoplastic layer containing at least a linear low density polyethylene having an average density of 0.900 g/mL - 0.915 g/mL, a peak melting point of 88 °C to 103 °C, a melt flow index of 5 dg/min. - 20 dg/min., and a swelling ratio of 1.4 - 1.6, and takes the position that these deficiencies are remedied by the disclosure in *Gillespie et al.*

Gillespie et al. discloses a polyethylene composition adapted to be extrusion coated on substrates forming an extrusion coated polyethylene laminate. *Gillespie et al.* describes using polyethylene having a melt flow index of 1 dg/min. - 4 dg/min. at 190 °C, an annealed density of 0.92 g/cc - 0.93 g/cc, a peak melting point of 106.9 °C, and a swell ratio of 1.2 - 1.3.

The Official Action recognizes that *Gillespie et al.* does not disclose the claimed values for annealed density, melt flow index and swelling ratio, but

concludes that it would have been obvious to one skilled in the art to arrive at the claimed values through routine experimentation and optimization of the values disclosed in *Gillespie et al.* The rejection based on the combined disclosures contained in *Eckstein* and *Gillespie et al.* is respectfully traversed for a number of reasons.

First, the disclosure in *Gillespie et al.* is said to "teach" the use of a polyethylene having certain claimed characteristics. However, the polyethylene disclosed in *Gillespie et al.* having the disclosed characteristics is a low density polyethylene (LDPE). This is to be contrasted with the subject matter recited in the independent claims defining that the thermoplastic material innermost layer or inside thermoplastic material layer contains a **linear low density polyethylene** (LLDPE). It is recognized that *Eckstein* discloses a multiple layer flexible sheet structure having a LLDPE layer. However, as the Official Action relies upon the disclosure in *Gillespie et al.* as setting forth a certain "teaching," the "teaching" contained in *Gillespie et al.* must be considered as a whole and in its entirety. In this context, what *Gillespie et al.* "teaches" is a **LDPE** layer having the disclosed values for annealed density, melt flow index and swelling ratio. Thus, if one were somehow motivated to employ the polyethylene disclosed in *Gillespie et al.* in connection with the multiple layer flexible sheet structure disclosed in *Eckstein*, one would utilize LDPE because that is what *Gillespie et al.* discloses. More specifically, *Gillespie et al.* does not "teach" using a LLDPE layer having the disclosed values for annealed density, melt flow index and swelling ratio. Thus, it is respectfully submitted that the rejection is improper because application of the disclosure in *Gillespie et al.* to the

sheet structure disclosed in *Eckstein* would not have resulted in the subject matter recited in the independent claims.

The prior response pointed out that the LDPE described in *Gillespie et al.* possesses a melt index of 1 dg/min to 4 dg/min at 190°C, an anneal density of 0.92 g/cc to 0/93 g/cc, and a swell ratio of 1.2 to 1.3, values which are all different from the claimed values for melt index, average density and swell ratio recited in the independent claims at issue here. The prior response also emphasized that it would not have been obvious to depart from the disclosed values because *Gillespie et al.* explicitly states that values outside the disclosed ranges should be avoided.

The most recent Official Action responds to these arguments by noting the discussion in *Gillespie et al* stating that: 1) the annealed density is preferably not much lower than 0.92 g/cc because polyethylenes with densities **much** below that value tend to exhibit high coefficients of friction; 2) polyethylene having a melt index **much** above 4 would not permit the polyethylene to be extrusion coatable; and 3) a polyethylene with a swell ratio that falls **much** above 1.3 is not extrusion coatable. The Official Action then seems to take the position that because *Gillespie et al.* mentions that the stated values for annealed density, melt flow index and swelling ratio should not be **much** above/below the stated values, it would have been obvious to use values for the annealed density, melt flow index and swell ratio that are outside the specifically disclosed values. The reasoning appears to be that, in the Examiner's opinion, the claimed values are not **much** above/below the values disclosed in *Gillespie et al.* and so it would have been obvious to choose values above/below the disclosed ranges, so long as they are not **much** above/below the disclosed values. However such an interpretation is not at all consistent with what

Gillespie et al. discloses. *Gillespie et al.* is rather specific in pointing out the stated ranges for the melt index, annealed density and swell ratio. The fact that *Gillespie et al.* goes on to describe why the values for the melt index, annealed density and swell ratio should not be above/below the stated values, and describes drawbacks and difficulties that occur when the values are much above or much below the stated values, is not a teaching directing one to go beyond the ranges specified. Quite the contrary, the description in *Gillespie et al.* discussing problems that arise when values outside the stated ranges are employed is merely an explanation of why the stated ranges are important and were found to provide the results sought to be achieved by *Gillespie et al.* Thus the discussion in *Gillespie et al.* describing difficulties created by using a LDPE having a melt index, annealed density and swell ratio outside the stated ranges would not have directed one to depart from the disclosed ranges and arrive at the claimed values set forth in the independent claims.

Because the stated values for the melt flow index, swell ratio and annealed density described in *Gillespie et al.* are not in accord with the values recited in the independent claims, applying the disclosure in *Gillespie et al.* to the sheet structure disclosed in *Eckstein* would not have directed one to do that which is defined in the independent claims as the invention.

With specific regard to the claimed average density of 0.900 g/mL – 0.915 g/mL recited in independent Claims 1 and 5, the Official Action observes that *Gillespie et al.* describes an annealed density of less than 0.92 g/ml in lines 53-63 of column one. However, this reference to low density polyethylenes (LDPE) having an annealed density below 0.92 g/cc is set forth in the background portion of *Gillespie et al.* Here, *Gillespie et al.* merely notes that such low density polyethylenes can be

heat sealed when formed as an extrusion coated polyethylene laminate at temperatures below 95°C. However, *Gillespie et al.* does not state that the low density polyethylene LDPE which is the subject of the patent should also have such characteristics. Indeed, just the opposite is true. The fact that *Gillespie et al.* recognizes low density polyethylenes having an annealed density below 0.92 g/cc, yet specifically discloses that the polyethylene which is the subject of the patent should have an annealed density of 0.92 g/cc to 0/93 g/cc is a clear indication that *Gillespie et al.* does not envision using a low density polyethylene having an annealed density below 0.92 g/cc. *Gillespie et al.* recognized the availability of low density polyethylenes having an annealed less than 0.92 g/cc, yet chose not to use such a low density polyethylene, presumably because a LDPE having an annealed density below 0.92 g/cc would not provide the objectives sought to be achieved by *Gillespie et al.* Thus, the reference to an annealed density below 0.92 g/cc in the background portion of Gillespie et al. not only does not support the position set forth in the Official Action, it contradicts such position.

With additional regard to Claim 5, the Official Action notes that *Ikenoya et al.* discloses a strip tape covering a section of the innermost layer of a container. However, nowhere does *Ikenoya et al.* state that such strip layer possess the claimed average density, peak melting point, melt flow index, swelling ratio and layer thickness recited in Claim 5. In fact, *Ikenoya et al.* does not even disclose that a surface layer of the strip tape contains a linear low density polyethylene as set forth in Claim 5. Quite the contrary, the discussion in lines 35-40 of column 5 of *Ikenoya et al.* describes that the strip tape 25 is composed of a layer of a modified polyester, an adhesive layer, a layer of a stretched polyester, an adhesive layer, and a layer of

a modified polyester. Thus, if one were somehow motivated to utilize the strip tape described in *Ikenoya et al.* in the modified sheet structure disclosed in *Eckstein*, the result would not be the claimed combination set forth in independent claim 5.

As this claimed aspect of the present invention has not been addressed in any communication to date, the Examiner is kindly asked to explain where such disclosures exist in the documents relied upon to date so that applicant's will understand the basis for the rejection of Claim 5.

In light of at least the foregoing deficiencies, it is respectfully submitted that even if one were somehow motivated to modify the modified sheet structure disclosed in *Eckstein* to include a strip tape as described in *Ikenoya et al.*, the result would not be that which is defined in independent Claim 5.

For at least the reasons discussed above, independent Claims 1, 5 and 6 are allowable. Thus, withdrawal of the rejections of record and allowance of this application are respectfully requested.

Dependent Claims 3, 4 and 7-9 are allowable at least by virtue of their dependence from allowable Claims 1, 2 and 5 and because they further define features that patentably distinguish over the prior art. For example, Claims 7-9 each recite that the inside layer or innermost layer is extrusion laminated.

Should any questions arise in connection with this application, or should the Examiner believe that a telephone conference with the undersigned would be helpful

i

in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: June 16, 2004

By: _____
Matthew L. Schneider
Registration No. 32,814

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620